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L8              STR
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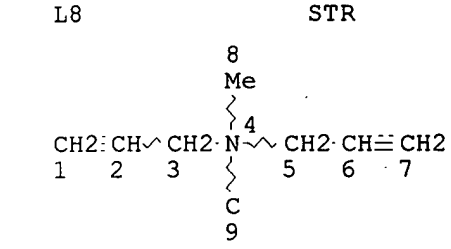

Considered 10/29/02

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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L13       1211 SEA FILE=REGISTRY SSS FUL L8
L22       9673 SEA FILE=HCAPLUS ABB=ON  PLU=ON  BIOSENSORS+NT/CT
L25          5 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L7 AND L13 AND L22


=> d ibib abs hitstr hitind l25 1-5

L25  ANSWER 1 OF 5  HCAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:        2002:232314  HCAPLUS
DOCUMENT NUMBER:         136:382410
TITLE:                   Design and characterization of films of sulfonated
                         polyaniline and redox proteins for sensors
AUTHOR(S):               Yu, Xin; Sotzing, Gregory; Papadimitrakopoulos,
                         Fotios; Rusling, James F.
CORPORATE SOURCE:        Department of Chemistry (U-3060), Institute of
                         Materials Science (U-3136), University of Connecticut,
                         Storrs, CT, 06269-3060, USA
SOURCE:                  Polymeric Materials Science and Engineering (2002),
                         86, 269
                         CODEN: PMSEDG; ISSN: 0743-0515
PUBLISHER:               American Chemical Society
DOCUMENT TYPE:           Journal; (computer optical disk)
LANGUAGE:                English
AB   Films were grown on graphite and gold electrodes with inner layers of
     conductive ionic polystyrene sulfonate, polyaniline (SPANI) and outer
     layers of proteins myoglobin or horseradish peroxidase. Electrochem.
     polymn. of the inner layer of SPANI vs. the adsorption of pre-formed SPANI
     onto a layer of cationic polyion were compared. The construction and
     characterization of these films are described.
IT   26062-79-3, Poly(diallyldimethylammonium chloride)
     RL: PEP (Physical, engineering or chemical process); PYP (Physical
     process); PROC (Process)
        (design and characterization of films of sulfonated polyaniline and
        redox proteins for sensors)
RN   26062-79-3  HCAPLUS
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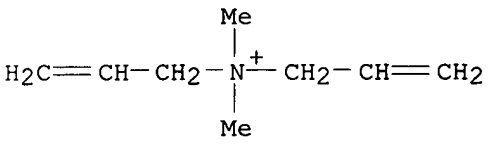
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



● Cl^-

CC 9-7 (Biochemical Methods)
IT **Biosensors**
Conducting polymers
Enzyme electrodes
(design and characterization of films of sulfonated polyaniline and redox proteins for sensors)
IT **26062-79-3**, Poly(diallyldimethylammonium chloride)
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(design and characterization of films of sulfonated polyaniline and redox proteins for sensors)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:708426 HCAPLUS
DOCUMENT NUMBER: 135:269474
TITLE: Selective permeation of hydrogen peroxide through polyelectrolyte multilayer films and its use for amperometric biosensors
AUTHOR(S): Hoshi, Tomonori; Saiki, Hidekazu; Kuwazawa, Sachie; Tsuchiya, Chikako; Chen, Qiang; Anzai, Jun-ichi
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Tohoku University, Sendai, 980-8578, Japan
SOURCE: Analytical Chemistry (2001), 73(21), 5310-5315
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A platinum electrode was coated with polyelectrolyte multilayer (PEM) films to prep. an amperometric hydrogen peroxide sensor which can be used in the presence of possible interferences such as ascorbic acid, uric acid, and acetaminophen. The PEM films were prepd. on the surface of a Pt disk electrode by an alternate deposition of polycation and polyanion from the aq. solns. through electrostatic force of attraction. The Pt electrodes coated with a poly(allylamine)/poly(vinyl sulfate) or poly(allylamine)/poly(styrenesulfonate) film were used successfully for

detecting H2O2 selectively in the presence of the possible interfering agents. It was suggested that H2O2 can diffuse into the PEM film smoothly while the ascorbic acid, uric acid, and acetaminophen cannot penetrate the film by a size exclusion mechanism. On the other hand, the electrodes coated with PEM films contg. poly(ethyleneimine) or poly(diallyldimethylammonium chloride) were not useful for the selective detn. of H2O2. The results were rationalized based on the different permeability of the films due to the different mol. d. or packing in the PEM films. The PEM film-coated electrode was useful for constructing glucose biosensors by coupling with glucose oxidase.

IT **26062-79-3**, Polydiallyldimethylammonium chloride
71550-12-4, Polyallylamine hydrochloride
RL: ARU (Analytical role, unclassified); DEV (Device component use); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(selective permeation of hydrogen peroxide through polyelectrolyte multilayer films and use for amperometric biosensors)

RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

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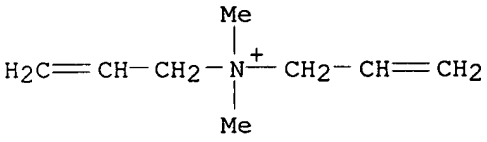
CRN 7398-69-8
CMF C8 H16 N . Cl



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RN 71550-12-4 HCAPLUS
CN 2-Propen-1-amine, hydrochloride, homopolymer (9CI) (CA INDEX NAME)

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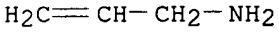
CRN 10017-11-5
CMF C3 H7 N . Cl H



● HCl

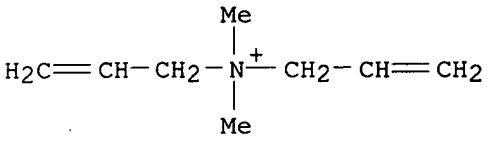
CC 9-1 (Biochemical Methods)
IT **Biosensors**
(amperometric; selective permeation of hydrogen peroxide through

polyelectrolyte multilayer films and use for amperometric biosensors)
IT 9002-98-6 25704-18-1, Poly(sodium 4-styrenesulfonate) **26062-79-3**, Polydiallyldimethylammonium chloride **71550-12-4**, Polyallylamine hydrochloride 83328-59-0, Poly(potassium vinyl sulfate)
RL: ARU (Analytical role, unclassified); DEV (Device component use); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process); USES (Uses)
(selective permeation of hydrogen peroxide through polyelectrolyte multilayer films and use for amperometric biosensors)
REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:162371 HCAPLUS
DOCUMENT NUMBER: 134:337227
TITLE: Assembly of Alternating Polycation and DNA Multilayer Films by Electrostatic Layer-by-Layer Adsorption
AUTHOR(S): Pei, Renjun; Cui, Xiaoqiang; Yang, Xiurong; Wang, Erkang
CORPORATE SOURCE: Laboratory of Electroanalytical Chemistry and National Analytical Research Center of Electrochemistry and Spectroscopy, Changchun Institute of Applied Chemistry Chinese Academy of Sciences, Jilin, 130022, Peop. Rep. China
SOURCE: Biomacromolecules (2001), 2(2), 463-468
CODEN: BOMAF6; ISSN: 1525-7797
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The assembly of alternating DNA and pos. charged poly(dimethyldiallylammonium chloride) (PDDA) multilayer films by electrostatic layer-by-layer adsorption has been studied. The real-time surface plasmon resonance (BIAcore) technique was used to characterize and monitor the formation of multilayer films in soln. in real time continuously. Electrochem. impedance spectroscopy (EIS) and UV-vis absorbance measurements were also used to study the film assembly, and linear film growth was obsd. All the results indicate that the uniform multilayer can be obtained on the poly(ethylenimine)- (PEI-) coated substrate surface. The kinetics of the adsorption of DNA on PDDA surface was also studied by the real-time BIAcore technique; the obsd. rate const. was calcd. using a Langmuir model (kobs = (1.28.+-.0.08) .times. 10-2 s-1).
IT **26062-79-3**, Poly(dimethyldiallylammonium chloride)
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(assembly of alternating polycation and DNA multilayer films by electrostatic layer-by-layer adsorption)
RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



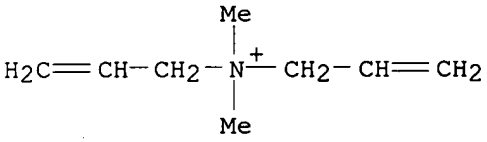
CC 6-2 (General Biochemistry)
Section cross-reference(s): 9
IT Adsorption kinetics
Biosensors
(assembly of alternating polycation and DNA multilayer films by electrostatic layer-by-layer adsorption)
IT **26062-79-3,** Poly(dimethyldiallylammonium chloride)
RL: ARU (Analytical role, unclassified); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(assembly of alternating polycation and DNA multilayer films by electrostatic layer-by-layer adsorption)
REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:333361 HCAPLUS
DOCUMENT NUMBER: 129:106090
TITLE: Bioreceptor-conducting polymer multilayer assemblies for biosensing
AUTHOR(S): Samuelson, L.; Alva, K. Shridhara; Kumar, J.; Kaplan, D.; Tripathy, S. K.
CORPORATE SOURCE: U.S. Army Natick Research, Development and Engineering Center, Biotechnology Division, Natick, MA, 01760, USA
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1998), 3321(Smart Materials, Structures, and MEMS), 82-93
CODEN: PSISDG; ISSN: 0277-786X
PUBLISHER: SPIE-The International Society for Optical Engineering
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This research focuses on the organized integration of biol. receptors and polymers into thin film architectures for biosensing applications. Layer-by-layer electrostatic adsorption was used for the first time to form alternating protein-conducting polymer multilayers. The light-harvesting, phycobiliproteins and the enzyme, alk. phosphatase were the bioreceptors investigated and sulfonated polystyrene, poly(diallyl di-Me ammonium chloride) and a new enzymically polymd., water sol., polyaniline were the polymer counterions used for deposition. Spectroscopic characterization was used to det. both multilayer formation and biosensing function of the final bioreceptor-polymer assemblies. These techniques have proven to be simple, chem. mild, and versatile and are expected to find application in the fabrication of ultrathin films for biosensors, opto-electronic devices and biomedical applications.
IT **26062-79-3,** Poly(diallyl dimethyl ammonium chloride)

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(bioreceptor-conducting polymer multilayer assemblies for biosensing)
RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



CC 9-1 (Biochemical Methods)
IT **Biosensors**
Conducting polymers
(bioreceptor-conducting polymer multilayer assemblies for biosensing)
IT 9001-78-9, Alkaline phosphatase 9003-53-6D, Polystyrene, sulfonated 25233-30-1D, Polyaniline, sulfonated **26062-79-3**, Poly(diallyl dimethyl ammonium chloride)
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(bioreceptor-conducting polymer multilayer assemblies for biosensing)

L25 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1995:835690 HCAPLUS
DOCUMENT NUMBER: 123:250683
TITLE: Bioreagent immobilization medium
INVENTOR(S): Spring, Thomas G.; Brackett, John M.; Vogdes, Sheila A.; Schultz, Steven G.
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9522057	A1	19950817	WO 1995-US1605	19950206
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5643721	A	19970701	US 1994-193972	19940209
CA 2182281	AA	19950817	CA 1995-2182281	19950206
AU 9518726	A1	19950829	AU 1995-18726	19950206
EP 744029	A1	19961127	EP 1995-910943	19950206
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL				

JP 09508532 T2 19970902 JP 1995-521309 19950206
PRIORITY APPLN. INFO.: US 1994-193972 19940209
WO 1995-US1605 19950206

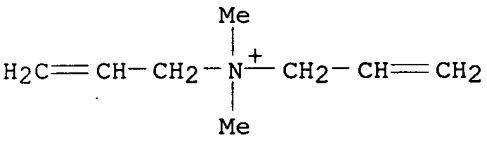
AB The present invention provides an immobilization medium which can immobilize bioreagents to support materials and which dries to a water resistant layer or film. The immobilization medium comprises (1) a liq. or fluid binding reagent and (2) complexes of a bioreagent immobilized to a solid phase which are evenly dispersed within the binding reagent. The suspension can further include supplemental ingredients evenly dispersed throughout the medium which can provide the medium with electrochem. properties, enhance the stability of the immobilized bioreagent and/or improve the medium's capability of drying to the substantially water resistant or insol. layer. The immobilization medium provided by the instant invention is in the form of a homogeneous liq. suspension. The immobilizing medium of the present invention can be employed in essentially any assay format which utilizes an immobilized bioreagent. For example, using the immobilization medium, an enzyme electrode can be manufd. and used in conjunction with a counter and ref. electrode to electrochem. detect the bioconversion of the enzyme substrate; a biosensor can be manufd. which is capable, via nonelectrochem. means, of detecting the bioconversion of the enzyme substrate; and a solid phase can be manufd. which can be used in heterogeneous immunoassay formats known in the art.

IT **26062-79-3**, Magnifloc 591C
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(biol. reagent immobilization medium)

RN 26062-79-3 HCAPLUS
CN 2-Propen-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 7398-69-8
CMF C8 H16 N . Cl



IC ICM G01N033-543
ICS G01N033-545

CC 9-15 (Biochemical Methods)
Section cross-reference(s): 15, 72

IT Antifoaming agents
Biosensors
Dispersing agents
Films
Immobilization, biochemical
Immunoassay

Indicators
Latex
Membranes
Pipes and Tubes
Plasticizers
Polymer-supported reagents
Stabilizing agents
Thickening agents
(biol. reagent immobilization medium)

IT 60-00-4, EDTA, analysis 84-74-2, Dibutyl phthalate 99-20-7, Trehalose 110-80-5, 2-Ethoxyethanol 126-86-3, Surfynol 104H 919-30-2 2807-30-9, Ektasolve EP 7005-47-2, DMAMP 80 9002-98-6, Corcat P18 **26062-79-3**, Magnifloc 591C 53633-54-8, Gafquat 734 54590-72-6, AQ 55 55008-57-6, Gafquat 755N 69418-26-4, Magnifloc 491C 72270-58-7, Magnifloc 577C 81859-24-7 86753-22-2, Magnifloc 572C 96957-69-6, Magnifloc 581C 114602-66-3, Magnifloc 579C 117347-69-0, Joncryl 537 137087-39-9, Joncryl 56 146702-37-6, Pliolite 7104 156409-71-1, Magnifloc 567C 169108-13-8, Acrysol 275 169108-38-7, Acrysol SCT 200 169108-39-8, Surfynol 695
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(biol. reagent immobilization medium)